REMARKS

Claims 1-9 are currently pending, wherein claims 1 and 9 have been amended. Favorable reconsideration is respectfully requested in view of the remarks presented herein below.

On page 2 of the Office action ("Action"), the Examiner objects to claim 9 because of an informality. Claim 9 has been amended, as suggested by the Examiner, thereby addressing the Examiner's concerns.

Further on page 2, the Examiner rejects claims 1, 6 and 7 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 7,305,846 B2 to Ueno et al. ("Uno"). Applicants submit herewith a terminal disclaimer, thereby overcoming this rejection.

On page 5 of the Action, the Examiner rejects claim 1 under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent No. 4,184,341 to Friedman ("Friedman"). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. § 102, the cited reference must teach each and every claimed element. In the present case, claim 1 is patentable over Friedman because Friedman fails to disclose each and every claimed element as discussed below.

In the refrigerating apparatus defined by claim 1, the first cooling circuit includes a first heat exchanger and the second cooling circuit includes a second heat exchanger and a sub-compressor. In addition, the first and second cooling circuit are connected in parallel to the heat source side circuit including the main compressor. In contrast, in Friedman, although the first cooling circuit 1A include a first heat exchanger 22d and the second cooling circuit 2a including the second heat exchanger 22e are connected in parallel to the heat source side circuit 1C, the second cooling circuit does not include a sub-compressor as claimed. The sub-compressor C4 in Freidman is provided in parallel with the main compressors of the heat source side circuit 1C.

Furthermore, in the first operation of claim 1, the refrigerant from the second heat exchanger is compressed in the sub-compressor, and the refrigerant compressed in the sub-compressor is further compressed in the main compressor. That is, the first operation is a so-called two-stage compression refrigeration cycle. In contrast, in Friedman, the refrigerant

compressed in the sub-compressor C4 is *not* compressed in the main compressors C1-C3. That is, the first operation in Friedman is a single-stage compression refrigeration cycle.

Finally, in the second operation of claim 1, in which the sub-compressor is provided in the second cooling circuit, the refrigerant is circulated between the first cooling circuit and the second cooling circuit. In contrast, in Friedman, in which the sub-compressor C4 is provided in the heat source side circuit 1C, it is necessary to send the refrigerant from the first heat exchanger 22d in the first cooling circuit 1a to the sub-compressor C4 in the heat source side circuit 1C and to send the refrigerant compressed in the sub-compressor C4 to the second heat exchanger 22e in the second cooling circuit 2A. This lengthens the refrigerant path in the second operation when compared with the claimed invention.

For at least those reasons presented above, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 over Friedman.

On page 8 of the Action, the Examiner rejects claims 2-7 under 35 U.S.C. § 103(a) as being unpatentable over Friedman in view of U.S. Patent No. 4,439,997 to Cantley ("Cantley"). Applicants respectfully traverse this rejection.

In order to support a rejection under 35 U.S.C. § 103, the Examiner must establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness three criteria must be met. First, there must be some rationale to combine the cited references. Second, there must be a reasonable expectation of success. Finally, the combination must teach each and every claimed element. In the present case, claims 2-7 are patentable over the combination of Friedman and Cantley because the combination fails to disclose each and every claimed element. For example, the combination fails to disclose or suggest a second three-way switching mechanism for allowing the suction side of the main compressor to communicate with the discharge side of the sub compressor in the first operation and allowing the suction side of the main compressor to communicate with the suction side of the sub-compressor in the second operation as claimed.

In rejecting claim 2, the Examiner asserts that it would have been obvious to one skilled in the art "to modify Friedman's apparatus to connect the suction side of the main compressor C-3 to the discharge side 13 of the suction compressor C-4 as taught by Cantley through a three

way switching mechanism or the like in order to obtain variable capacity compressors with variable discharge pressures in order to adapt to the change of thermal loads in the system." The Examiner's assertions is unfounded for the following reasons.

First, Friedman specifically teaches the compressors are connected in parallel to draw refrigerant vapor from a common low side suction header and to discharge compressed or pressurized refrigerant vapor through a common high side delivery header to a condenser to meet the varying load demands and temperatures. Second, even if one were to modify Friedman to include a booster compressor as taught by Cantley, the modification would still fail to render claim 2 unpatentable because Cantley fails to disclose allowing the suction side of the main compressor to communicate with the suction side of the sub compressor in the second operation as claimed. At best, Cantley merely discloses allowing the discharge side of the sub compressor to communicate with the suction side of the main compressor.

Since the combination of Friedman and Cantley fails to disclose or suggest a second three-way switching mechanism for allowing the suction side of the main compressor to communicate with the discharge side of the sub compressor in the first operation and allowing the suction side of the main compressor to communicate with the suction side of the sub compressor in the second operation as claimed, the combination of these two references cannot possibly disclose or suggest said element. Therefore, even if one skilled in the art has some rationale to combine Friedman and Cantley (which Applicants do not concede), the combination would still fail to render claim 2 unpatentable because the combination fails to disclose each and every claimed element.

Claims 3-7 variously depend from independent claim 2. Therefore, claims 3-7 are patentable over the combination of Friedman and Cantley for at least those reasons presented above with respect to claim 2. Reconsideration and withdrawal of the rejection of claims 2-7 is respectfully requested.

On page 12 of the Action, the Examiner rejects claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Friedman in view of Cantley, further in view of U.S. Patent No. 4,671,062 to Starck et al. ("Starck").

Claim 8 depends from independent claim 2. Therefore, claim 8 is patentable over the combination of Friedman and Cantley for at least those reasons presented above with respect to claim 2. Starck discloses a sensor for detecting frost deposits. However, Starck fails to overcome the deficiencies of Friedman and Cantley.

Since Friedman, Cantley, and Starck each fail to disclose or suggest a second three-way switching mechanism for allowing the suction side of the main compressor to communicate with the discharge side of the sub compressor in the first operation and allowing the suction side of the main compressor to communicate with the suction side of the sub compressor in the second operation as claimed, the combination of these three references cannot possibly disclose or suggest said element. Therefore, even if one skilled in the art had some rationale to combine Friedman, Cantley, and Starck (which Applicants do not concede), the combination would still fail to render claim 8 unpatentable because the combination fails to disclose each and every claimed element. Reconsideration and withdrawal of the rejection of claim 8 is respectfully requested.

On page 13 of the Action, the Examiner rejects claim 9 under 35 U.S.C. § 103 (a) as being unpatentable over Friedman in view of Cantley, further in view of U.S. Patent Application Publication No. 2004/0250555 to Dube ("Dube").

Claim 9 depends from independent claim 2. Therefore, claim 9 is patentable over the combination of Friedman and Cantley for at least those reasons presented above with respect to claim 2. Dube discloses a high speed defrost refrigeration system. However, Dube fails to overcome the deficiencies of Friedman and Cantley.

Since Friedman, Cantley, and Dube each fail to disclose or suggest a second three-way switching mechanism for allowing the suction side of the main compressor to communicate with the discharge side of the sub compressor in the first operation and allowing the suction side of the main compressor to communicate with the suction side of the sub compressor in the second operation as claimed, the combination of these three references cannot possibly disclose or suggest said element. Therefore, even if one skilled in the art had some rationale to combine Friedman, Cantley, and Dube (which Applicants do not concede), the combination would still fail to render claim 9 unpatentable because the combination fails to disclose each and every

claimed element. Reconsideration and withdrawal of the rejection of claim 9 is respectfully requested.

The application is in condition for allowance. Notice of same is earnestly solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Penny Caudle Reg. No. 46,607 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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